

CLAIMS

1. A method for detecting an analyte in a sample composition comprising the steps of:

(a) preparing an assay mixture comprising:

5 said sample composition;

a reagent having an ECL label; and,

a reagent having an ECL quenching moiety, said ECL quenching moiety comprising at least one benzene moiety;

(b) determining any difference between the ECL emissions of:

10 (i) the assay mixture prepared in step (a); and,

(ii) an assay mixture comprising:

said reagent having an ECL label;

said reagent having an ECL quenching moiety; and,

a known amount of said analyte; and,

15 (c) correlating any difference determined in step (b) with the amount of analyte in said sample.

2. The method according to claim 1, wherein said ECL quenching moiety comprises at least one moiety selected from the group consisting of phenol moieties, quinone moieties, benzene carboxylic acid moieties, and benzene carboxylate moieties.

25 3. The method according to claim 1, wherein said ECL quenching moiety comprises at least one phenol moiety.

4. The method according to claim 1, wherein said ECL quenching moiety comprises at least one quinone moiety.

5. The method according to claim 1, wherein said ECL quenching moiety comprises at least one benzene carboxylic acid moiety.

6. The method according to claim 1, wherein said ECL quenching moiety comprises at least one benzene carboxylate moiety.
7. The method according to claim 1, wherein said ECL label comprises ruthenium.
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- X 8. The method according to claim 1, wherein said ECL label comprises osmium.
9. The method according to claim 1, wherein said ECL label comprises a polycyclic aromatic hydrocarbon.
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10. The method according to claim 1, wherein said analyte comprises an oligonucleotide.
11. The method according to claim 1, wherein said analyte comprises DNA.
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12. The method according to claim 1, wherein said analyte comprises RNA.
13. The method according to claim 1, wherein said analyte comprises a polypeptide.
14. The method according to claim 1, wherein said analyte comprises an antibody.
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15. The method according to claim 1, wherein said analyte comprises an antigen.
16. The method according to claim 1, wherein said analyte comprises an enzyme.
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17. The method according to claim 1, wherein said analyte comprises an enzyme substrate.
18. The method according to claim 1, wherein said analyte comprises a polysaccharide.
19. The method according to claim 1, wherein said known amount of analyte is zero.

20. The method according to claim 1, wherein said reagent having an ECL label and said reagent having an ECL quenching moiety are the same reagent.

21. The method according to claim 1, wherein said reagent having an ECL label and said reagent having an ECL quenching moiety are different reagents.

22. The method according to claim 1, further comprising the steps of:
conducting a chemical reaction on a substrate present in an initial sample
composition to produce said analyte in said sample composition prior to step (a); and,
correlating any difference determined in step (b) with the amount of substrate in
said initial sample composition.

23. The method according to claim 1, further comprising the step of:
conducting a chemical reaction with the assay mixture prepared in step (a) before
the determining of step (b).

25. An assay reagent for use in the method according to claim 1, said assay reagent comprising an ECL quenching moiety, said assay reagent provided in a suitable container.

26. An assay reagent for use in the method according to claim 1, said assay reagent comprising an ECL quenching moiety and an ECL label, said assay reagent provided in a suitable container.

27. An assay reagent kit for use in the method according to claim 1, said assay reagent kit comprising an assay reagent in a suitable container, said assay reagent comprising an ECL quenching moiety, and instructions for performing said method.

28. An assay reagent kit for use in the method according to claim 1, said assay reagent kit comprising an assay reagent in a suitable container, said assay reagent comprising an ECL quenching moiety and an ECL label, and instructions for performing said method.

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